What is claimed is:

1. A multideposition sub-atmospheric chemical vapor deposition (SACVD) reactor comprising:

a substrate processing chamber;

a carbon susceptor adapted to hold a substrate in said substrate processing chamber during a SACVD operation, wherein said carbon susceptor consists is coated by a polysilicon film to protect it against said cleaning gases;

a gas distribution system adapted to introduce gases into said substrate processing chamber and including appropriate valves, gas supply lines and other equipment necessary to flow gases into said substrate processing chamber, wherein said gases include dielectric/non-dielectric forming gases and in-situ cleaning gases that are aggressive to carbon;

a heating system to heat said susceptor to an adequate deposition temperature;

a pressurization system adapted to set a pressure level within said substrate processing chamber; and

a controller coupled to said gas distribution system and pressurization system for directing operation of said SACVD reactor.

2. The SACVD reactor of claim 1 wherein said dielectric material is Si_3N_4 and said forming gas is a SiH_4/NH_3 mixture.

3. The SACVD reactor of claim 1 wherein said dielectric material is SiO_2 and said forming gas is a SiH_4/NO_2 mixture.

4. The SACVD reactor of claim 1 wherein said dielectric material is SiON and said forming gas is either a $DCS/N_2O/NH_3$ mixture or a $SiH_4/N_2O/NH_3$ mixture.

5. The SACVD reactor of claim 1 wherein said non-dielectric material is doped polysilicon and said forming gas is a SiH_4/PH_3 mixture.

6. The SACVD reactor of claim 2 wherein said cleaning gases are selected from the group consisting of NF_3 and HCl.

7. The SACVD reactor of claim 1 wherein said dielectric material is Si_3N_4 and said deposition is performed in a Centura HTF reactor at a pressure of about 80 Torr to about 150 Torr, at a temperature of about 650 °C to about 800 °C, with a NH_3 flow of about 3.2 slm, with a SiH_4 flow of about 30 sccm, with a N_2 flow of about 5 slm, and for a duration of about 5 min.

8. The SACVD reactor of claim 1 wherein said dielectric material is SiO_2 and said deposition is performed in a Centura HTF reactor at a pressure of about 50 Torr to about 100 Torr, at a temperature of about 600 °C to about 900 °C, with a SiH_4 flow of about 60 sccm, with a N_2O flow of about 2.8 slm, and with a N_2 flow of about 9.2 slm.

9. The SACVD reactor of claim 1 wherein said dielectric material is SiON and said deposition is performed in a Centura HTF reactor at a pressure of about 80 Torr to about 150 Torr, at a temperature of about 650 °C to about 800 °C, with a NH_3 flow of about 1 slm, with a DCS flow of about 200 sccm, with a N_2O flow of about 2.8 slm, and with a N_2 flow of about 5 slm.

10. A method of in-situ conditioning a carbon susceptor in a AME Centura reactor to render it NF_3 resistant comprising the steps of:

a) placing a standard carbon susceptor in a processing chamber of said reactor;

b) cleaning said chamber interior volume with HCl;

c) purging said interior volume with H_2;

d) coating said susceptor bottom with a film of polysilicon using a DCS precursor;

e) purging said interior volume with H_2;

f) coating said susceptor top with a film of polysilicon using a SiH_4 precursor; and

g) purging said interior volume with H_2.

11. The method of claim 10 wherein in the step of coating said carbon susceptor bottom is performed with a lamp power of 26 kW (# 950 °C), for a duration of 540 s, with a DCS flow of about 0.4 slm, with a H_2 flow of about 19 slm, and at a deposition rate of about 300 nm/min.

12. The method of claim 11 wherein said bottom polysilicon coating has a thickness of about 4 μm.

13. The method of claim 10 wherein in the step of coating said carbon susceptor top is performed at a temperature of about 675 °C, with a SiH_4 flow of about 0.5 slm, with a H_2 flow of about 9.5 slm, for a duration of about 400 s, and at a deposition rate of about 150 nm/min.

14. The method of claim 13 wherein said top polysilicon coating has a thickness of about 1.5 μm.

15. A susceptor for dielectric and non-dielectric material deposition in a SACVD reactor resistant to NF_3 attack comprising a carbon plate coated by a polysilicon film.

16. The susceptor of claim 15 wherein said bottom polysilicon coating has a thickness of about 4 μm and said top polysilicon coating has a thickness of about 1.5 μm.